# Amigas Latinas Motivando el ALMA (ALMA): Development and Pilot Implementation of a Stress Reduction Promotora Intervention

Melissa A. Green<sup>1</sup>, Georgina Perez, India J. Ornelas<sup>2</sup>, Anh N. Tran<sup>2</sup>, Connie Blumenthal<sup>1</sup>, Michelle Lyn<sup>2</sup>, and Giselle Corbie-Smith<sup>1</sup>

<sup>1</sup>University of North Carolina, NC <sup>2</sup>Duke University, NC

#### **Abstract**

Use of mental health care services for psychological distress is limited among Latino immigrants. In geographic areas where migration has been rapid, mental health systems possess limited capacity to provide bilingual and bicultural assistance. The development of a bilingual and bicultural workforce is a necessary yet long-term solution. More immediate strategies, however, are needed to meet the needs of immigrant Latinos. This paper describes the development of a stress-reduction focused, lay health advisor training that targets individual behavior change among Latina immigrants. The theoretical foundation, curriculum components, and pilot implementation of the training are discussed. As natural leaders, Latina promotoras disseminated learned strategies and resources within their communities. The lay health advisor model is a salient method for disseminating information regarding mental health and stress reduction among Latinas.

© 2012 Californian Journal of Health Promotion. All rights reserved. Keywords: Latinos, lay health advisors, promotoras, mental health, immigrant

# Introduction

Individuals suffering from psychological distress have difficulty gaining treatment for mental health disorders with the greatest unmet need among traditionally underserved groups (Wang et al., 2005). In particular, help-seeking behaviors among Latino immigrants diagnosed with depression are considered among the lowest. Less than 4% of Latino immigrants with a mental health diagnosis reporting receiving care (Mezzich et al., 1999; North Carolina Institue of Medicine, 2003; US Department of Health and Human Services, 2001; Vega et al., Unmet mental health care needs 2001). compromise families, workplaces, communities and are often co-morbid with a range of other health conditions in health disparity populations (Jorm et al., 2006; Wang, et al., 2005).

The dramatic increase in Latino immigrants both long-established areas with Latino populations and in newer areas of migration such as the Midwest and South (Fry, 2008) suggests the unmet need in mental health will only increase. Both rural and urban communities have experienced this growth. In North Carolina, the Latino population grew 394% from 1990 (76,726) to 2000 (378,963) and represented 8% (800,120) the state's population as of 2010 (North Carolina Institue of Medicine, 2003; US Department of Health and Human Services, 2001). Fifty-three percent of Latinos were North Carolina foreign representing the third highest ethnic/racial group in the United States. The majority (65%) report Mexican origin, and most (84%) speak a language other than English at home (Fry, 2008; North Carolina Institue of Medicine, 2003).

Several factors limit health care access for immigrants. Welfare reform policies such as the Personal Responsible and Work Opportunity Reconciliation Act (PWORA) limit eligibility for publicly funded services for both legal and undocumented immigrants (Derose, 2007). Additional factors such as low socioeconomic status, limited English proficiency, geographic setting (particularly settings in which Latino immigration is a new occurrence), and stigma and marginalization from their new community and local health services further influence the extent to which immigrants are vulnerable to limited health care access (Corbie-Smith et al., 2010; Derose et al., 2007; Finch et al., 2003). Solutions that countermand this vulnerability are needed.

Community-based interventions that build on the strengths of Latino communities may provide preventive resolution. One example is the Lay Health Advisor (LHA) model. This manuscript describes the development of ALMA (Amigas Latinas Motivando el Alma/Latina Friends Motivating the Soul), a training curriculum to reduce preclinical depression and anxiety among recent Latina immigrants. We begin with an explanation of the theoretical foundation of the program. Next, we describe the development of the ALMA program. We describe our efforts to make the program culturally relevant to a diverse Latina immigrant population, present the framework for the program, and describe our recruitment process. Finally, we present characteristics of the 20 promotoras participating in the program and their self-identified stressors, stress-reduction strategies, and outreach efforts reported by promotoras.

# **Theoretical Model and Previous findings Overlapping Waves of Action**

ALMA is based conceptually on Overlapping Waves of Action (OWA), a dynamic population model of psychological distress coping actions (Jorm et al., 2004). Delivery of the ALMA intervention is achieved through the lay health advisor (*promotora*) model, a peer-based methodology that works with natural community leaders to diffuse information and resources among peers. Combining OWA with the promotora model, the ALMA curriculum is an

individual-level intervention to train promotoras in stress-reduction strategies for their own use and to disseminate within their social networks.

Figure 1 illustrates peak use of the three waves of action taken to reduce psychological distress: self-help strategies and complementary therapies readily available and known to the individual (first wave), identification and use of strategies and therapies not already in use (second wave), and professional assistance to relieve symptoms of anxiety and depression (third wave) (Jorm et al., 2006). Three waves of action form the constructs of the OWA model proposed by Jorm and Griffiths (2006). Presumptions of the OWA model suggest a) untreated pre-clinical anxiety and depression leads to an exacerbation of symptoms and their physical and psychological manifestations and b) individuals seeking relief rely on strategies from higher waves when their distress becomes more severe.

Jorm and colleagues (Jorm et al., 2004) conducted a survey with Australian adults to assess self-reported psychological distress and coping strategies. Reported strategies included everyday actions (e.g. enjoyable activities, family and friends. and exercise). complementary therapies, non-prescription medication, dietary changes, and professional help. Their findings support the OWA model, reflecting the adoption of second and third wave coping actions as distress intensifies.

Figure 1

# **Help-seeking Behaviors Among Latinos**

Peers can also influence adoption of second and third wave coping behaviors. Studies examining mental health help-seeking behaviors observe that endorsement by close friends and family influenced contemplation and exploration of help-seeking strategies including professional help (McMiller et al., 1996; Rüdell et al., 2008). Specific attention to the mental health helpseeking behaviors of Latinos corroborates these findings. Cabassa and Zaya's research with Latino immigrants examined the cognitive processes influencing depression care-seeking behaviors (Cabassa et al., 2007). They found that Latinos seek a combination of informal (e.g., family, friends, and clergy) and formal (professional) sources for depression care, but first rely upon and prefer informal sources (Cabassa et al., 2007). Among Latino respondents, intentions to seek professional sources of care were positively associated with endorsement of professional care by family and If subclinical mental health careseeking behaviors are similarly influenced by the social acceptability of peers, a peer-based intervention may serve as a feasible means to improve use of and access to coping strategies and resources that alleviate psychological distress.

### **Peer Support Model**

The peer support model (also referred to as lay health advisor or promotor/promotora) has been as a promising demonstrated effective intervention strategy among racial and ethnic minority groups. There is substantial variation in the specific role of promotoras, their activities, and training (Ayala, 2010; Rhodes, Despite these variances, there are 2007). similar traits among the promotoras. First, the promotora is already identified in the community as a "natural helper" who lives, works, and socializes within the defined community. Secondly, due to their participation within the community, they possess a complex understanding of their community's history, its culture, local social norms, and local social networks of inhabitants, neighbors, and friends (Eng et al., 2002; Eng et al., 1997; Rhodes et al., 2007; Rhodes et al. 2006). The promotora training intervenes at the individual level, as she gains knowledge and skills in a health topic, and she disseminates information, supports selfadvocacy, and links peers with local resources (Eng, 1991; Kaphingst et al., 2011). Adaptation of the model with Latino and migrant

communities has resulted in promising interventions to reduce disparities in breast cancer, HIV, diabetes, cardiovascular disease, obesity, and smoking (Ayala et al., 2010; Cabassa et al., 2007; Cherrington et al., 2010; Elder et al., 2009; Martínez-Donate, 2009; Mcquiston et al., 2001; Rhodes et al., 2006; Saad-Harfouche et al., 2011).

We chose to adapt the promotora model to reduce preclinical depression and anxiety among recent Latina immigrants. We describe the development of the ALMA curriculum, present a curriculum overview, and impart observations during the pilot implementation. Our expected proximal outcomes included identification of perceived stressors and coping strategies among immigrant Latinas and feasibility of diffusion of mental health information and resources via a promotora model.

#### Methods

# Part I: Program Development Resources

The ALMA curriculum was developed to target individual behavior change. Specifically, the purpose of the intervention was to encourage use of healthy coping strategies and increase access to professional resources among promotoras and their social networks. This initiative formed out Duke-UNC of the Health **Disparities** Collaboration, an interinstitutional effort to address health disparities and unite research teams from two academic health centers - Duke University and the University of North Carolina at Chapel Hill.

Using an iterative process, we prioritized an intervention to target preventive mental health for Latinas as our goal. We contacted our colleagues engaged in community-based work with Latinos and met with local community partners to assess receptivity of a communityengaged research project on this topic and interest in collaboration. Simultaneously, we found mental health training curricula for Latinos. Identified resources were derived in locations with established Latino populations but have not been peer reviewed (California-Mexico Initiative. 2005). We Health convened

Community and Academic Advisory Committees bi-annually and more frequently in smaller groups to guide the development, implementation, and evaluation of ALMA. Committee members remained actively involved in a number of ways (Corbie-Smith, et al., 2010). The committee created the ALMA acronym which means "soul" or "spirit" in Spanish. We adapted the curriculum format to emphasize active learning styles using visual, kinesthetic, affective, and cognitive styles based on committee review and feedback. Committee members suggested settings for recruitment, cofacilitated sessions, and provided space for sessions. They discussed factors they observed that contribute to the isolation, lack of knowledge to local resources, and an unwelcoming social and political environment as stressors for Latinos. Committee members and the research team agreed to focus on preclinical symptoms, such as depression and anxiety, clinical based upon and community observations. Our goal was to develop a preventive mental health curriculum that enhanced self-esteem, social support, and connection to community resources benefitting Latinas and their peers.

## **Cultural Relevance**

Scholars advocating for clients of color have widely emphasized inclusion of cultural concepts in mental health interventions, development of accessible and targeted interventions, and collaboration with supportive resources within the client's community (Griner et al., 2006; Sue et al., 2003). ALMA intervention components that emphasize cultural relevance include delivery of the sessions in a language, reflection of cultural native experiences and norms in activities, and extension of support and community resources to the family unit. Participant contact, consent, and session facilitation were conducted in Spanish.

Culturally experiences common among Latinos were identified to convey concepts such as inclusion of pictures and stories of Latinas. A prominent example is an activity demonstrating the dimensions of active listening that is ruined by translation and illustrates the importance of

considering linguistic appropriateness. The activity uses familiar tongue-twisters as the trigger. For example, the abstracted phrase "como poco coco como, poco coco compro" loses humor and relevance when represented as. "Since I eat little coconut, little coconut I buy." Secondly, use of references and games familiar to Latino subcultures are incorporated such as an adaptation of Loteria, Mexican version of bingo, to reinforce examples of healthy coping options. A loteria card displays first and second wave coping strategies. A third example is use of materials that convey common experiences. In the introductory session, promotoras read and hear a fictional story about migration. Session time is allocated to share personal examples. This sharing process conveys commonalities and variances in the migration experience of participants. Finally, we considered the influence of family hierarchy in decision making. The concepts of respeto (submissive respect for providers and elders), familismo (involvement of immediate and extended family making important decisions), marianismo/machismo (traditional gender roles) influenced the development and delivery of ALMA. For example, a session with the public system's Hispanic liaison intentionally planned during a session open to spouses and partners in deference to these concepts and the household demographics of promotoras. The liaison provided information on school resources and guidance on advocating for the child. For some promotoras and their partners this was a new and welcomed resource. The mainstream expectation that parents advocate for their child's educational needs differed from their own cultural norms and experiences in which parents completely relinquish educational authority to the school system.

# **ALM A Curriculum**

Guided by our review of materials, assistance from our committee, and the described theoretical framework, we developed a 10-session training curriculum encompassing 9 modules and graduation. Throughout the ALMA curriculum, we implemented activities to enhance awareness of healthy coping strategies with origins across the layers of the OWA

framework (Table 1) that build upon existing coping strategies of Latinas. ALMA participants begin the training with a basic introduction and definitions of stress, physiological and psychological symptoms of stress, stressors, and coping strategies. This process begins with each promotora participating in a reflective activity to identify personal stressors and coping strategies (first wave). Throughout ALMA, we build on the promotoras' personal inventory of coping strategies as promotoras learn about other self-help strategies from their peers (second wave)

during training. Promotoras acknowledged their existing social networks and expanded their network through participation in sessions with other promotoras. Promotoras practiced new coping strategies including deep breathing, exercise, alternate communication strategies when separated from family, meditation, and journaling. The third wave of OWA is actualized as promotoras learn about external sources of community assistance through interactions with local health professionals and receive information about other community resources.

#### Table 1

### Sessions and Objectives

#### **Session 1: Welcome and Migration Journey**

To identify coping strategies of self and others (Wave 1, 2)

To learn basic definitions of mental health, stress, and coping

#### Session 2: Separation from Family, Friends, and Home

To create a safe and comfortable learning environment

To define each promotoras social network (Wave 1, 2)

To identify alternate strategies to reconnect with separated members of social network (Wave 2)

# Session 3: Life in NC and You: Adjusting to a New Place

To introduce and practice new coping strategies such as deep breathing and meditation (Wave 2)

#### Session 4: Community Resources Scavenger Hunt: Vamonos

To identify community resources (Wave 2, 3)

# Session 5: Helping Others as a Promotora

To learn components of effective listening

To learn boundaries of a promotora using the Ask, Advise, Assist method (Wave 2)

#### **Session 6: Mental Health**

To talk about seeking professional help by interviewing different types of mental health professionals (Wave 3)

# Session 7: Life in NC and your Family: Difficulties Adjusting to a New Place

To learn about resources that may help family integration in the school systems (Wave 2)

To build social network among promotora's partners

# Session 8: Exercise as a Coping Strategy

To introduce and practice new coping strategies such as yoga (Wave 2)

# Session 9: Promotoras and Compañeras

To demonstrate to compañeras lessons learned through ALMA (Wave 2)

To talk with health professionals about the challenges of acculturation (Wave 3)

# **Session 10: Graduation with Family Members**

To invite family members to celebrate with promotoras (Wave 1)

Using principles of adult learning theory (Lewis et al., 1994), the session format was interactive experiential, and built upon the unique experiences of participants. ALMA sessions began this process with a *vivencia*, a story or short-video. Promotoras reflected on the

vivencia, discussed personal stressors, acknowledged commonalities across different experiences, and identified strategies to modify behavior or identify useful tools to apply in future situations. Demonstration and interactive activities illustrated variations in stress and

coping options. For example, one activity used expanding sponges and water to trigger dialogue regarding individual variations in the emotional and physiological tolerance and reaction to stress. In other activities, a scavenger hunt

paired promotoras to explore community resources and a talk show format with local mental providers created a supportive environment for promotoras to explore when and how to seek professional assistance.

Table 2

**Demographic Characteristics of the Sample (n=20)** 

Demographic Characteristics of the Sam	Demographic Characteristics of the Sample (n= 20)					
	%	n	Mean	SD	Range	
Age, years		20	33.9	8.51	25-60	
Marital Status		20				
Married or cohabitating	60%	12				
Single/divorced/widowed	40%	8				
Education						
Less than High School	25%	5				
High School	20%	4				
Some college/degree	55%	11				
Years in the U.S.		20	8.225	5.14	1.5-20	
Years in the city/county		20	6.15	3.25	1-11	
Country of origin Mexico	85%	17				
Currently in school	55%	11				
Employed Full Time	40%	8				
Employed Part Time	50%	10				
Family income per week						
\$285 or less	15%	3				
\$286 - \$430	50%	10				
\$431 - \$575	20%	4				
\$576 - \$720	5%	1				
Number of people income supports		18	3.33	1.28	1-6	
Household size (adults)		20	2.35	1.14	1-5	
Household size (children)		20	1.35	1.18	0-5	
Has health insurance	15%	3				
Health Status Good or better	85%	17				
Acculturation score (1 = more Latino, 5 = more Anglo)		20	2.05		1-5	

Each session promotoras received tangible incentives of healthy coping strategies such as phone cards that accompany the information they acquire to place in their "comfort basket", a canvas bag with the ALMA logo that literally and figuratively contains examples of healthy coping tools available to each promotora. The concept of the ALMA comfort basket was inspired by the Women's Comfort Book (Louden, 1992), a self-help book to help women

identify ways to relieve stress. Items incorporated into session homework assignments often emphasized family connections such as phone cards, handcrafted greeting cards, and photo albums. The literal examples of the comfort basket minimized the challenges posed by limited literacy and were compatible with the interactive format of the sessions and communalism within Latino culture.

# Part II: Pilot Implementation of Program Participants

The project team identified 31 potential participants through established community contacts including local health fairs (65%),

Latino serving agencies (19%), and participant referral (16%). Twenty Latinas were recruited and consented to participate in the ALMA pilot training. Participants received a \$20 stipend for each of the ten sessions attended.

Table 3

Stress Relieving Activities Identified in ALMA

Wave 1: Current Self-Help Strategies	Wave 2: New Coping Strategies	Wave 3: Mental Health and Other Professionals
Taking free classes (i.e. English and computer classes) at local	Phone cards	Mental health professionals (social workers, psychologists,
community college	<ul> <li>Handcrafted greeting cards</li> </ul>	psychiatrists)
Taking a walk or other exercise	• Photo albums	• Clergy
• Playing with children	• Yoga	Public School System (ESL liaison, family specialists)
Listening to music	<ul> <li>Journaling</li> </ul>	
<ul> <li>Shopping</li> </ul>	<ul> <li>Meditation</li> </ul>	Domestic Violence Center
11 0		<ul> <li>Mediation Resources</li> </ul>
<ul> <li>Watching television or movies</li> </ul>	<ul> <li>Expanding social network to</li> </ul>	
• Gardening	ALMA promotoras	Community agencies and resources (Parks and Recreation,  Color of the Color of
Cooking/Baking	Loteria (healthy coping bingo)	Catholic Charities)
• Friends/family		
<ul> <li>Praying</li> </ul>		

We included women, age 18 and older, and who identified their ethnicity as Latina. Preference towards recently immigrating Latinas was expressed in our recruitment efforts but was not an exclusion criterion. Self-identification as a natural leader was also a criterion. Recruitment flyers and conversations distinguished the expectations of promotoras once trained. They were informed promtoras would be asked to disseminate information acquired during the sessions to up to three peers. Potential participants were asked if they were involved in their communities and whether they selfidentified as role models. Several of the participants previously served as promotoras for other health areas and voiced mental health as a concern. All participants expressed a desire to help others access resources.

Each participant was clinically assessed by the research team's licensed clinical social worker

(LCSW) and a psychologist, both of whom are Latina, for the following conditions: substance abuse or dependence, suicidal ideation or tendencies, psychosis, seizure disorders, or dementia. Expression or history of these conditions excluded participation and resulted in a referral to a mental health specialist. The assessment included administration of measures of stress, coping, mental health symptoms, and demographic factors.

# **Procedures**

Pilot implementation of the program occurred at times convenient for the promotoras. ALMA staff contacted participants to confirm interest, query preferences, and determine session times that were convenient to participants. Promotoras preferred Saturday mornings for weekly training sessions and weekday evenings for monthly booster sessions. Participant contact was conducted in Spanish.

During implementation, the social worker made weekly contacts to remind promotoras of assignments, request session RSVP, and alert promotoras of changes to the session. delivered facilitator sessions combination of paired, small, and large group discussions. Sessions were held in a community setting in three hour blocks. All training sessions were facilitated by a bilingual, bicultural clinical social worker. Some components of the training sessions were also co-facilitated by committee members and other service providers with extensive knowledge of a topic or resource area. All meetings closed with a family style meal. Homework assignments given at each training session provided opportunities for promotoras to practice the skills learned in prior sessions. Assignments encouraged use of comfort basket items like materials for creating greeting cards for family members, calling cards for connecting with family in country of origin. Tangible examples of second wave coping strategies included a yoga mat, meditation CD, and resource guide of community resources. Promotoras were asked to select up to three individuals (compañeras) with whom to share information and materials they acquired through ALMA.

#### Measures

Measures included promotora demographics, session attendance logs, documentation of first wave coping strategies, and monthly booster logs. Session attendance was tallied from session sign-in sheets. First wave coping strategies were identified during a session activity. Promotoras used worksheets to document and describe first wave coping strategies, then discussed them in small and large group discussions. Promotoras provided feedback on the session using a brief evaluation form. They were queried for their mood, what they liked about the session, and suggested changes.

Following the ten sessions, promotoras met monthly over nine months for booster sessions. Booster sessions reinforced skills building and information from the training sessions and provided opportunities for promotoras to share their experiences disseminating information and support to other Latinas. Each month, promotoras were asked to share information and resources about mental health and coping skills with the compañeras and others in the community. Promotoras self-reported outreach activities using a brief one-page log. Logs detailed types of referrals, items shared from the comfort basket, and whether outreach activities occurred in one-on-one or group settings.

# Analysis

We conducted frequencies of basic demographics, attendance, and outreach activities during booster months and produced summaries of first wave activities and session evaluations.

### Results

### **Demographics**

Training session attendance was high, ranging from 94% to 71% through the ten sessions; 35% of promotoras attended all ten sessions. Most promotoras were married, had at least a high school education, were employed, and pursuing additional education (Table 2). Promotoras identified their countries of origin as Mexico, Columbia, the Dominican Republic, and Panama. Most promotoras reported their health status as good or better, but few had health insurance. Ten compañeras were identified by promotoras. Nine compañeras participated in the session open to compañeras. Three partners attended the session open to partners.

During the pilot sessions, promotoras discussed stressors in their own lives and helping coping strategies. Promotoras recognized stress as an ubiquitous factor in their lives for desired situations (new job) and undesired ones (separation from family and racism). Promotoras acknowledged emotional and physical manifestations of stress including: adapting to foreign cultural norms and systems, isolation from family and support, burdens of family responsibilities, and domestic violence.

While reflecting upon the stressors they encounter, promotoras were asked to describe their current self-help strategies. Table 3 describes self-disclosed coping strategies (first

wave) promotoras documented on worksheets and small group discussion. Second wave strategies list tangible examples of healthy coping strategies introduced to promotoras during intervention activities and included in the "comfort baskets". Additionally, self-disclosure of first wave coping strategies among promotoras exposed their peers to second wave strategies to consider. Third wave lists the variety of mental health and other community introduced professionals to promotoras. compañeras, and their partners during session activities.

Promotoras completed brief session evaluations describing what they liked and disliked. Overwhelmingly the responses were positive. Promotoras felt the session format was safe welcoming. They felt comfortable asking questions of facilitators and guest presenters and thought the format helped them learn more about resources in the community. They enjoyed being able to share their experiences with one another, the homework assignments, and comfort basket items. Addition materials and session time was requested regarding topics such as self-esteem, marital and intimacy issues within relationships, and employment opportunities.

During monthly booster sessions, promotoras reported on the reach of information and resource dissemination through one-on-one interactions (n=130) and group presentations (n=38). In the nine months following the training, promotoras reported 425 interactions with Latinas. The type of interactions include referrals to local mental health agencies (40%), referrals to other community resources, such as WIC, health care services, and domestic violence assistance (22%), modeling or sharing items from their comfort baskets (18%), and transportation assistance (20%).

#### **Discussion**

Through a collaborative effort, we created ALMA, a ten-session curriculum on stress and coping strategies for Latina immigrants. This theory-based intervention builds on the strengths of the community both through a peer support framework and the existing coping strategies

that individual participants already possess. The strengths of Latinas are emphasized during first and second wave components of the curriculum while promotoras reflect on their existing coping strategies. Additional coping strategies and access to community resources are presented as new strategies to 'try-on' that are complimentary to their own rather than in place of them. These considerations are consistent with key findings from a meta-analysis of cultural adaptations to mental health interventions. Griner and Smith's review of culturally adapted mental health interventions found the following characteristics vield more effective client outcomes across various conditions and outcome measures: tailoring to specific cultural groups, conducting interventions in the clients' native language, and endorsing local support resources, spiritual traditions, and extended family (Griner et al., 2006).

One of our goals was to integrate cultural values in ALMA – importance of family, including extended family, connection through physical affection, and communalism. ALMA session components reflected synergy with promotora priority concerns and acknowledgement of support from extended family by creating homemade greeting cards, distributing calling cards, developing inclusive sessions with partners, and disseminating information on resources relevant to the family unit such as local school systems and local recreation centers.

We propose that components delivered by bilingual and bicultural staff engender trust and less hesitancy to try new and potentially foreign coping strategies such as meditation, yoga, and professional help. Individual and consistent contact with the promotoras before, during, and following the training contributed to a strong rapport with the study team that translated into high rates of retention in the sessions and over the course of the intervention. The rapport developed between the research staff and the promotoras also helped identify individual needs for promotoras that included referrals to local resources and mental health services promotoras, their family members, and compañeras.

Booster sessions following the training provided an opportunity to reinforce concepts during the training. The sessions also served as venue to support fellow promotoras, exchange resources, and report on experiences aiding compañeras and others. Consideration of a process such as booster sessions to support, retain, and further equip promotoras can also help sustain and strengthen their social network.

### Limitations

As in any study there are some limitations to this model that need to be considered. First, feasibility of this model with other cultural and geographic populations may be a challenge. Some activities, such as the listening activity, require adaptation to the specific cultural population. Also, inclusion of local resources and representatives in the delivery of the curriculum requires a dynamic format to support identification and involvement of local experts, presuming bilingual and bicultural experts are available.

Secondly, sustainability beyond the training requires forethought and planning. Beyond the intensive training process, promotoras may feel abandoned. We incorporated booster sessions to provide support and continued education, however even those sessions are time limited. Pairing boosters with local agencies can help connect promotoras with community opportunities for continued education and support.

A third limitation is participant reach. Although promotoras were recruited from a variety of settings, all 20 were referred through a connection to other Latinos or Latino serving agencies, which implies existing connection to support and local resources. Additional approaches to identify socially isolated and more recently immigrated participants may need to be considered. While this pilot of ALMA resulted in high participation throughout the sessions, the length of the program and booster sessions may be a deterrent for women with less support.

# **Implications**

This report on the development of the ALMA curriculum responds to calls for interventions

that reflect the cultural contexts of Latino immigrants (Griner et al., 2006; Trimble et al., 2006) and evidence of the adaptation of the lay health advisor model for Latinos (Rhodes et al., 2007). As natural helpers in their communities, promotoras innately relay information and resources to referents within their communities. The process of sharing experiences with partners and friends and endorsing self-help strategies and local resources may enhance awareness, increased use of those resources, and diminish the stigma of seeking assistance among referents.

While the process evaluation findings of ALMA are promising, findings from forthcoming ALMA outcome evaluation for promotoras and compañeras will be important in determining the program's impact on awareness of local resources, adoption of healthy coping strategies, and community perceptions of strategies to reduce stress. Rigorous evaluation of lay health advisor models in Latino communities can further our understanding of the roles and limitations of Latina promotoras in mental health as health advisors, referral sources, distributors of materials, community models, and even community advocates. The emphasis on information sharing in the peer support model is traditionally between the promotora and their peers, however, the promotora's insider lens can also enhance learning and consciousness raising among researchers and health professionals to enhance the development and delivery of culturally appropriate, responsive, and effective mental health interventions and services.

# Acknowledgements

"ALMA - Amigas Latinas Motivando el Alma" or "Latina Friends Motivating the Soul" is an inter-university Duke University-University of North Carolina-GlaxoSmithKline Health Disparities Initiative. It is supported by a grant from the North Carolina GlaxoSmithKline Foundation of Research Triangle Park, NC. This research was also supported by grants from the National Center for Research Resources, a component of the National Institutes of Health (NIH) (UL1RR024128 and UL1RR0257470, and NIH Roadmap for Medical Research. The authors would like to express their gratitude to

Susan Yaggy for her leadership in the initial conceptualization of ALMA and to our Community and Academic Advisory Committees for their continual guidance throughout the development, implementation and evaluation of ALMA. We are also appreciative to Michelle Hayes, Nana Abreu,

and Rachel Page for their assistance with data entry and preliminary analyses. Finally, we extend our most sincere thanks to all of the ALMA participants for their time, energy and dedication and all who supported their participation.

### References

- Altpeter, M., Earp, J. A., Bishop, C., & Eng, E. (1999). Lay health advisor activity levels: definitions from the field. *Health Education Behavior*, 26(4), 495-512.
- Aranda, M. P. C., I.; Lee P-J.; Sobel, E. (2001). Stress, social support, and coping as predictors of depressive symptoms: Gender differences among Mexican Americans. *Social Work Research*, 25, 37-48.
- Auger, S., & Verbiest, S. (2007). Lay health educators' roles in improving patient education. *North Carolina Medical Journal*, 68(5), 333-335.
- Ayala, G. X., Vaz, L., Earp, J. A., Elder, J. P., & Cherrington, A. (2010). Outcome effectiveness of the lay health advisor model among Latinos in the United States: an examination by role. *Health Education Research*, 25(5), 815-840.
- Cabassa, L. J., & Zayas, L. H. (2007). Latino immigrants' intentions to seek depression care. *American Journal of Orthopsychiatry*, 77(2), 231-242.
- California-Mexico Health Initiative. (2005). Historias de Ir y Venir: Manual Sobre Salud Mental para Promotores/as de Salud. Retrieved from http://www.ucop.edu/cprc.cmhi.html
- Cherrington, A., Ayala, G. X., Amick, H., Scarinci, I., Allison, J., & Corbie-Smith, G. (2010). Applying the community health worker model to diabetes management: using mixed methods to assess implementation and effectiveness. *Journal of Health Care for the Poor and Underserved*, 19(4), 1044.
- Corbie-Smith, G., Yaggy, S. D., Lyn, M., Green, M., Ornelas, I. J., Simmons, T., . . . Blumenthal, C. (2010). Development of an interinstitutional collaboration to support community-partnered research addressing the health of emerging Latino populations. *Academic Medicine*, 85(4), 728-735.
- Denman, S. (1999). Latino Access to Care Survey. Report to the Duke Endowment.
- Derose, K. P., Escarce, J. J., & Lurie, N. (2007). Immigrants And Health Care: Sources Of Vulnerability. *Health Affairs*, 26(5), 1258-1268.
- Elder, J. P., Ayala, G. X., Slymen, D. J., Arredondo, E. M., & Campbell, N. R. (2009). Evaluating Psychosocial and Behavioral Mechanisms of Change in a Tailored Communication Intervention. *Health Education & Behavior*, *36*(2), 366-380.
- Eng, E. (1991). Networking Between Agencies and Black Churches: The Health Advisor Model. *Prevention in Human Services*, 10:23-46.
- Eng, E., & Parker, E. (2002). Natural Helper Models. In R. J. DiClemente, R. A. Crosby & M. Kegler (Eds.), *Emerging Theories and Models in Health Promotion Research & Practice*. San Francisco: Jossey-Bass Publishers
- Eng, E., Parker, E., & Harlan, C. (1997). Lay health advisor intervention strategies: a continuum from natural helping to paraprofessional helping. *Health Education & Behavior*, 24(4), 413-417.
- Eng, E., & Young, R. (1992). Lay health advisors as community change agents. *Family & Community Health*, 15(1), 24-40.
- Finch, B. K., & Vega, W. A. (2003). Acculturation Stress, Social Support, and Self-Rated Health Among Latinos in California. *Journal of Immigrant Health*, *5*(3), 109-117.
- Fry, R. (2008). Latino Settlement in the New Century. Washington, DC: PEW Hispanic Center

- Garrison, E. G., Roy, I. S., & Azar, V. (1999). Responding to the mental health needs of latino children and families through school-based services. *Clinical Psychology Review*, 19(2), 199-219.
- Griner, D., & Smith, T. (2006). Culturally adapted mental health interventions: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training, 43*(4), 531-548.
- Jorm, A., & Griffiths, K. (2006). Population promotion of informal self-help strategies for early intervention against depression and anxiety. *Psychological Medicine*, *36*(01), 3-6.
- Jorm, A., Griffiths, K., Christensen, H., Parslow, R., & Rogers, B. (2004). Actions taken to cope with depression at different levels of severity: a community survey. *Psychological Medicine*, *34*(2), 293-299.
- Kaphingst, K., Lachance, C., Gepp, A., Hoyt D'Anna, L., & Rios-Ellis, B. (2011). Educating underserved Latino communities about family health history using lay health advisors. *Public Health Genomics*, 14(4-5), 211-221.
- Lewis, L. H., & Williams, C. J. (1994). Experiential learning: Past and present. *New Directions for Adult and Continuing Education*, 1994(62), 5-16.
- Louden, J. (1992). *The woman's comfort book : A self-nurturing guide for restoring balance in your life* (1st ed.). San Francisco, Calif.: HarperSanFrancisco
- Martínez-Donate, A. P. (2009). Using lay health advisors to promote breast and cervical cancer screening among Latinas: a review. *Wisconsin Medical Journal*, 108(5), 259-262.
- McMiller, W. P., & Weisz, J. R. (1996). Help-Seeking Preceding Mental Health Clinic Intake among African-American, Latino, and Caucasian Youths. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35(8), 1086-1094.
- McQuiston, C., Choi-Hevel, S., & Clawson, M. (2001). Protegiendo nuestra comunidad: Empowerment participatory education for HIV prevention. *Journal of Transcultural Nursing*, 12(4), 275-283.
- Mezzich, J. E., Ruiz, P., & Munoz, R. A. (1999). Mental health care for Hispanic Americans: a current perspective. *Cultural Diversity and Ethnic Minority Psychology*, *5*(2), 91-102.
- North Carolina Institue of Medicine. (2003). *NC Latino Health, 2003*. North Carolina Institue of Medicine, Durham, NC. Retrieved from http://www.learnnc.org/lp/pdf/latino-immigration-p6182.pdf
- Rhodes, S. D., Foley, K. L., Zometa, C. S., & Bloom, F. R. (2007). Lay health advisor interventions among Hispanics/Latinos: a qualitative systematic review. *American Journal of Preventive Medicine*, *33*(5), 418-427.
- Rhodes, S. D., Hergenrather, K. C., Montaño, J., Remnitz, I. M., Arceo, R., Bloom, F. R., . . . Bowden, W. P. (2006). Using community-based participatory research to develop an intervention to reduce HIV and STD infections among Latino men. *AIDS Education & Prevention*, 18(5), 375-389.
- Rhodes, S. D., Hergenrather, K. C., Wilkin, A., Alegria-Ortega, J., & Montano, J. (2006). Preventing HIV infection among young immigrant Latino men: results from focus groups using community-based participatory research. *Journal of National Medical Association*, 98(4), 564-573.
- Rüdell, K., Bhui, K., & Priebe, S. (2008). Do 'alternative' help-seeking strategies affect primary care service use? A survey of help-seeking for mental distress. *BioMed Central Public Health*, 8(1), 207.
- Rummel, C. B., Hansen, W. P., Helbig, A., Pitschel-Walz, G., & Kissling, W. (2005). Peer-to-peer psychoeducation in schizophrenia: a new approach. *Journal of Clinical Psychiatry*, 66(12), 1580-1585.
- Saad-Harfouche, F. G., Jandorf, L., Gage, E., Thélémaque, L. D., Colón, J., Castillo, A. G., . . . Erwin, D. O. (2011). Esperanza y Vida: training lay health advisors and cancer survivors to promote breast and cervical cancer screening in Latinas. *Journal of Community Health*, 36(2):219-27.
- Sue, S., & Chu, J. Y. (2003). The mental health of ethnic minority groups: challenges posed by the Supplement to the Surgeon General's Report on Mental Health. *Culture, Medicine, andPsychiatry, 27*(4), 447-465.
- Trimble, J. E., & Fisher, C. B. (2006). *The handbook of ethical reserach with ethnocultural populations & communities*. Thousand Oaks, California: Sage Publications, Inc.

- US Department of Health and Human Services. (2001). Mental Health: Culture, Race, and Ethnicity--A supplement to Mental Health: A Report of the Surgeon General Retrieved from <a href="http://www.surgeongeneral.gov/library/mentalhealth/cre/">http://www.surgeongeneral.gov/library/mentalhealth/cre/</a>
- Vega, W. A., & Lopez, S. R. (2001). Priority issues in Latino mental health services research. *Mental Health Services Research*, 3(4), 189-200.
- Wang, P. S., Lane, M., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005). Twelve-Month use of mental health services in the United States: Results from the National Comorbidity Survey Replication. *Arch Gen Psychiatry*, 62(6), 629-640.

# **Author Information**

\*Melissa A. Green, MPH
Cecil G. Sheps Center for Health Services Research
University of North Carolina, NC
725 Martin Luther King Jr. Blvd.
Chapel Hill, NC 27599
mgreen@schsr.unc.edu
Phone: 919-966-7107

Fax: 919-966-3811

Georgina Perez, MSW Duke University Medical Center, NC

India J. Ornelas, PhD University of North Carolina, NC

Anh N. Tran, PhD, MPH Duke University Medical Center, NC

Connie Blumenthal, MPH University of North Carolina, NC

Michelle Lyn, MHA, MBA Duke University Medical Center, NC

Giselle Corbie-Smith, MD, MSc University of North Carolina, NC

<sup>\*</sup> corresponding author